
Linked Vocabularies for Mobility and Transport Research

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TIB – Leibniz Information Centre for Science and Technology
Metadata and Semantics Research Conference (MTSR 2020)
December 3, 2020

FID move

What is FID move?



Specialised Information Service for
Mobility and Transport Research
SIS move

Fachinformationsdienst Mobilitäts- und
Verkehrforschung
FID move

<https://www.fid-move.de>



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Why terminology?

Motivation for Information Retrieval



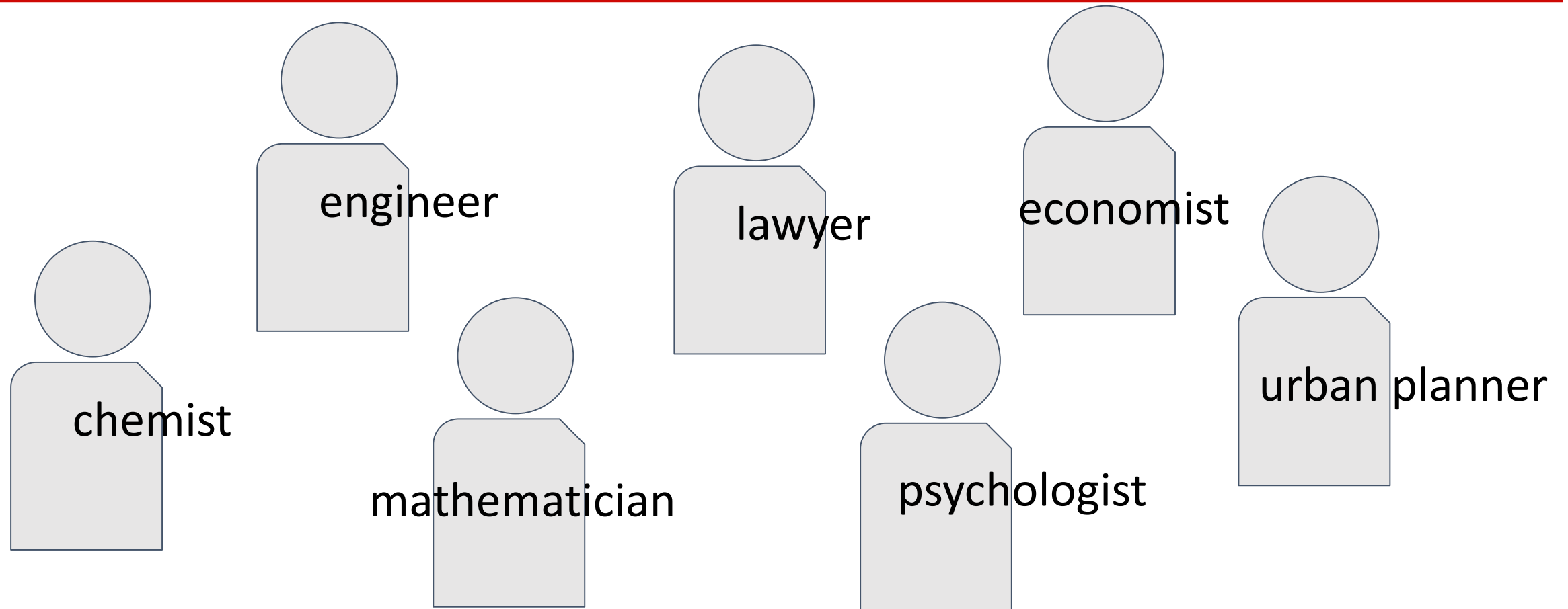
– Battery

- Li ion batteries (aka: Li ion cells, lithium ion akkumulator, lithium ion cells, Li-Ion-Akku, Lithium-Ionen-Akku, Lithium-Ionen-Akkumulator, Lithiumionenakkumulator, Li-Ion-Akkumulator, Li-Ionen-Akku, Lithium-Ionen-Batterie, Lithium-Ionen-Zelle, Lithiumionen-Akku, Lithiumionen-Akkumulator, Lithiumionen-Batterie, Lithiumionenbatterie)
- Natrium ion battery (aka; na ion batterie, na ion battery, natrium ionen zelle, natriumionen sekundaratterie, natriumionenakku, natriumionenakkumulator salzwasserbatterie, sib, sodium ion battery)



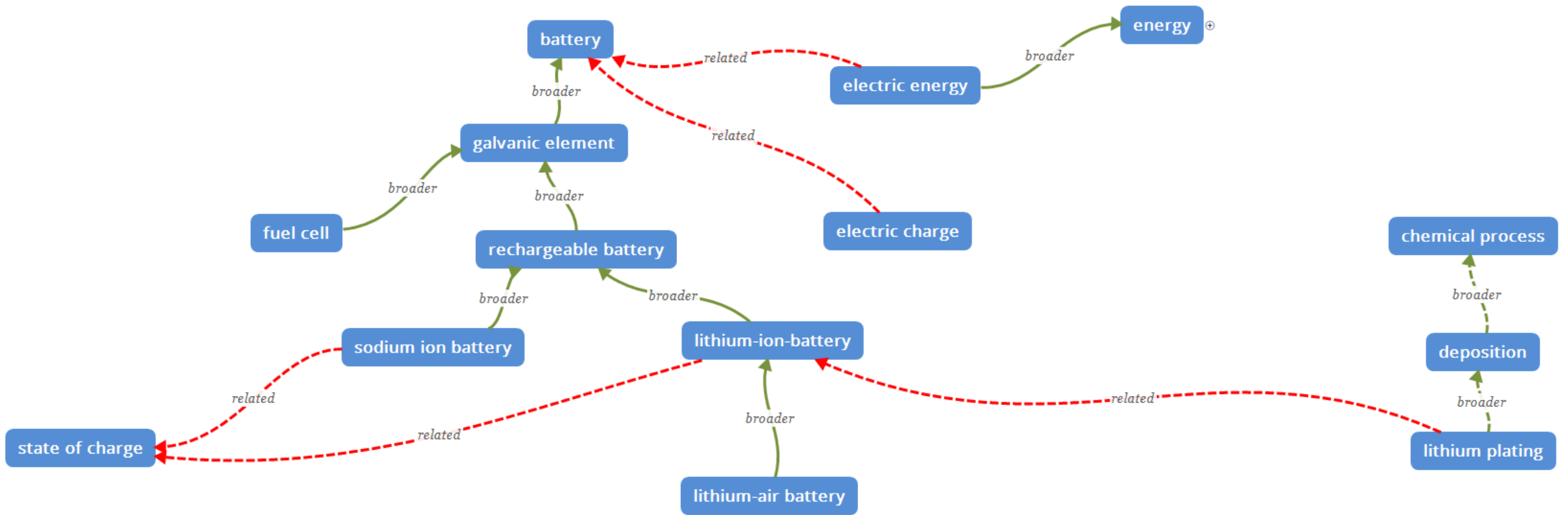
Why terminology?

... a terminological divide between disciplines



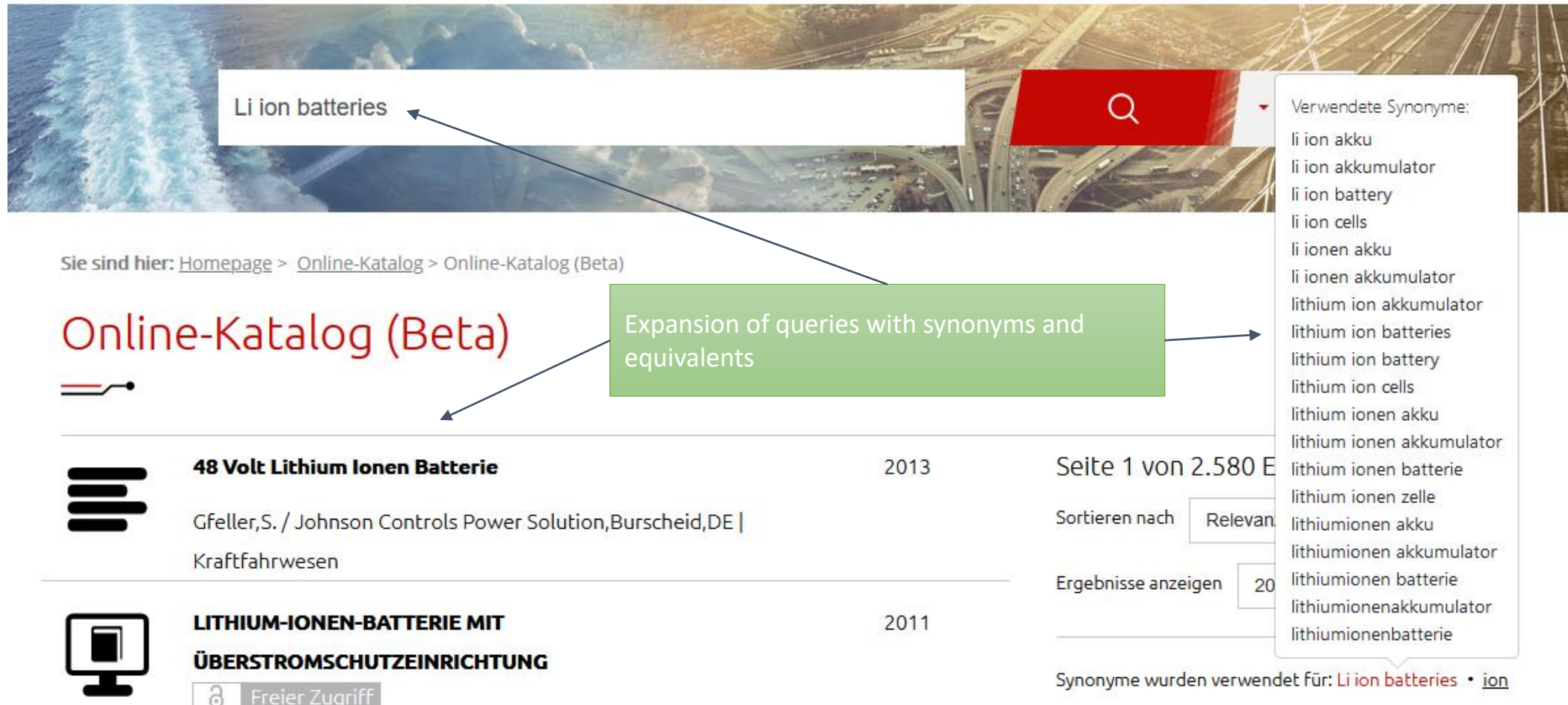
Why terminology?

Explorative search – conceptual relations





Why terminology?

Search term expansion - synonyms



The screenshot shows a search interface for 'Li ion batteries'. A search bar at the top contains the text 'Li ion batteries' and a red search button. A dropdown menu is open, displaying a list of synonyms under the heading 'Verwendete Synonyme:'. The synonyms include: 'li ion akku', 'li ion akkumulator', 'li ion battery', 'li ion cells', 'li ionen akku', 'li ionen akkumulator', 'lithium ion akkumulator', 'lithium ion batterien', 'lithium ion battery', 'lithium ion cells', 'lithium ionen akku', 'lithium ionen akkumulator', 'lithium ionen batterie', 'lithium ionen zelle', 'lithiumionen akku', 'lithiumionen akkumulator', 'lithiumionen batterie', 'lithiumionenakkumulator', and 'lithiumionenbatterie'. Below the search bar, the breadcrumb trail reads 'Sie sind hier: Homepage > Online-Katalog > Online-Katalog (Beta)'. The main heading is 'Online-Katalog (Beta)'. A green callout box with the text 'Expansion of queries with synonyms and equivalents' has arrows pointing to the search bar and the dropdown menu. The search results are displayed in a table with two entries:

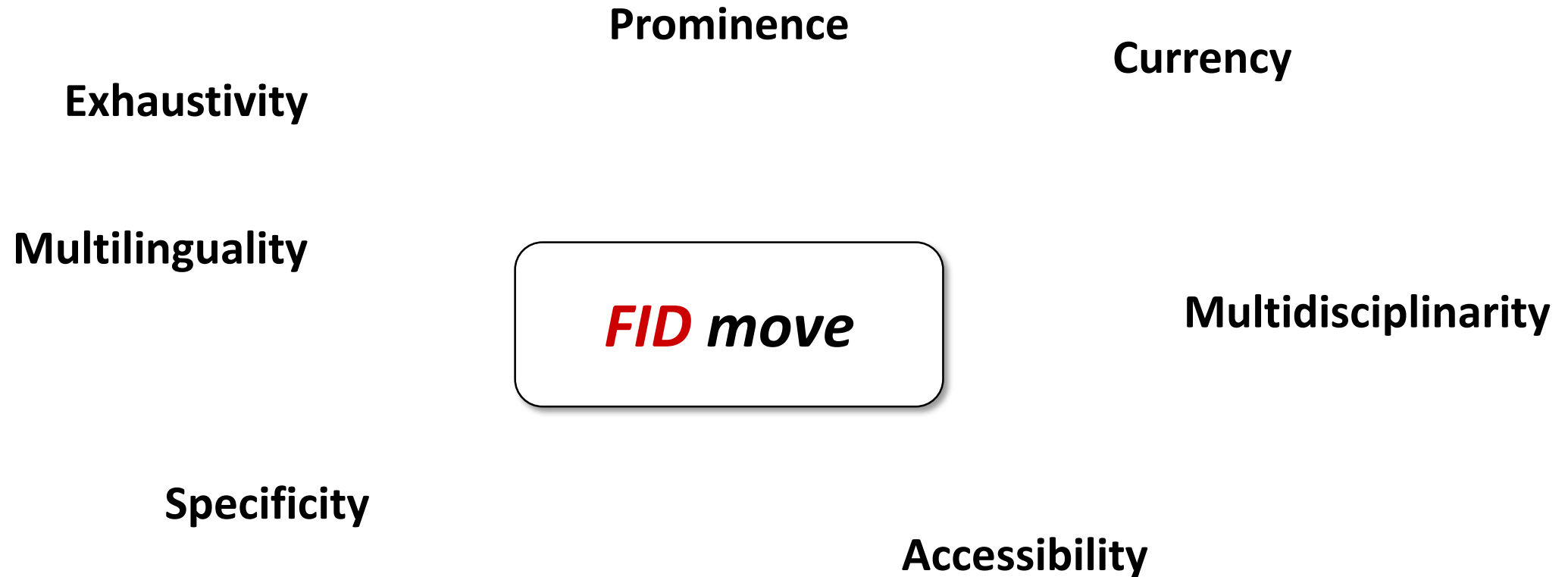
Icon	Product Name	Year
	48 Volt Lithium Ionen Batterie Gfeller,S. / Johnson Controls Power Solution,Burscheid,DE Kraftfahrwesen	2013
	LITHIUM-IONEN-BATTERIE MIT ÜBERSTROMSCHUTZEINRICHTUNG Freier Zugriff	2011

Additional interface elements include 'Seite 1 von 2.580 E', 'Sortieren nach Relevanz', and 'Ergebnisse anzeigen 20'. A footer note states: 'Synonyme wurden verwendet für: Li ion batteries • ion'.

A vocabulary for FID move

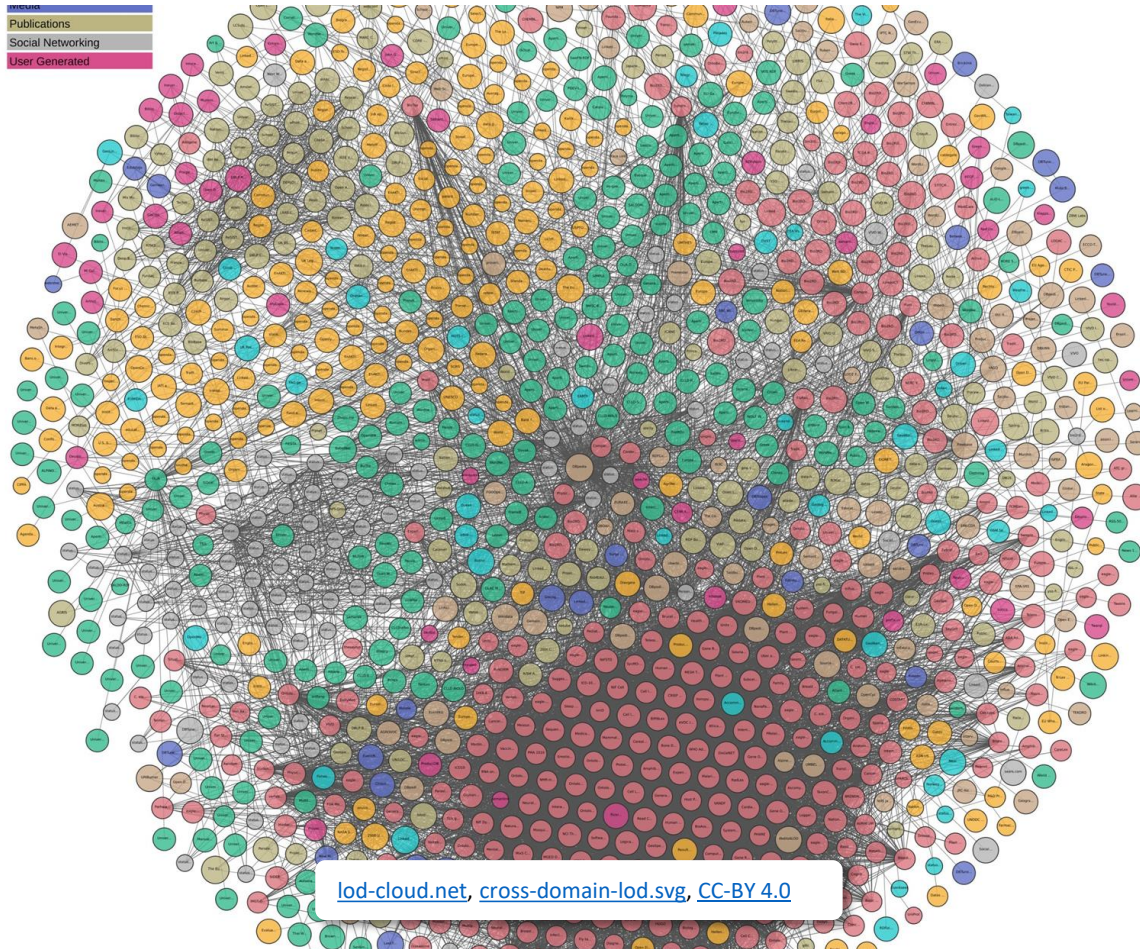
A vocabulary for FID move

Ideal traits



A vocabulary for FID move

Terminology re-use

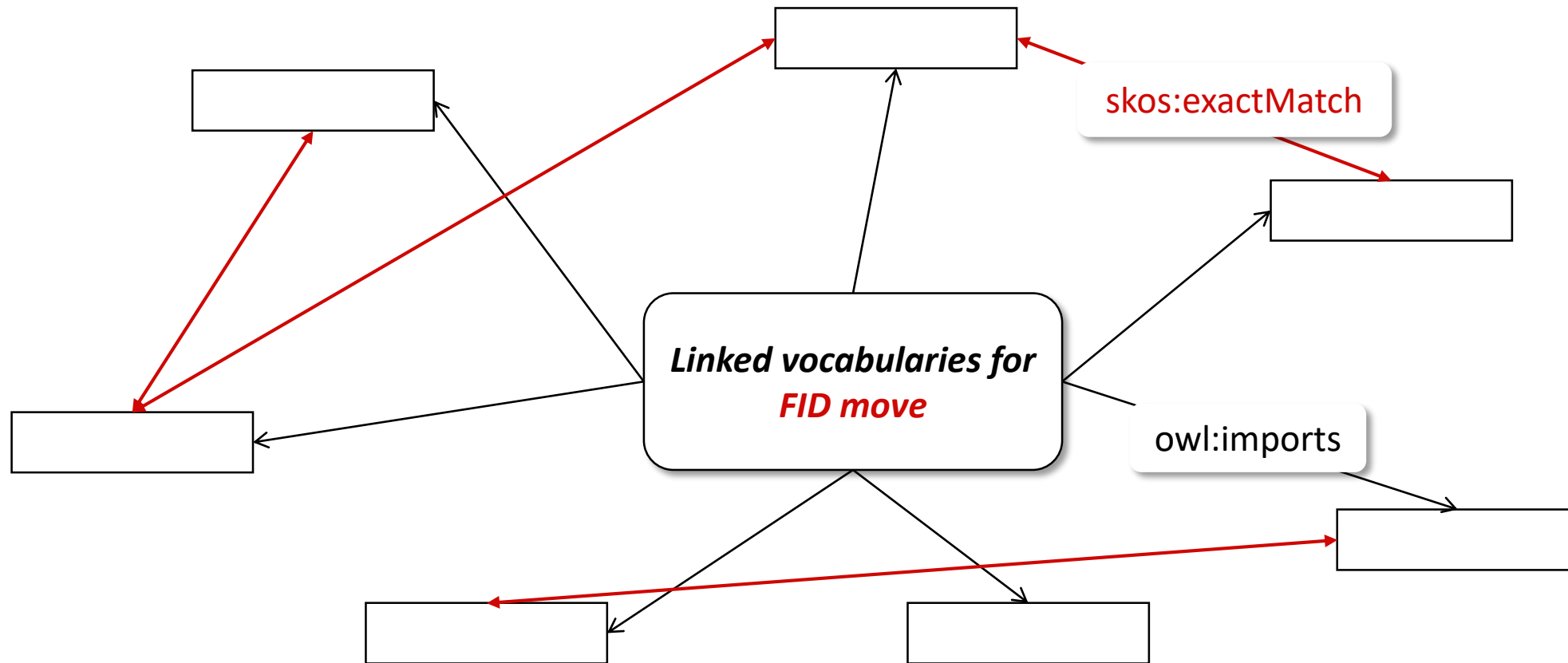


[Mondsplitter](#), [BARTOC Logo](#), CC BY-SA 4.0



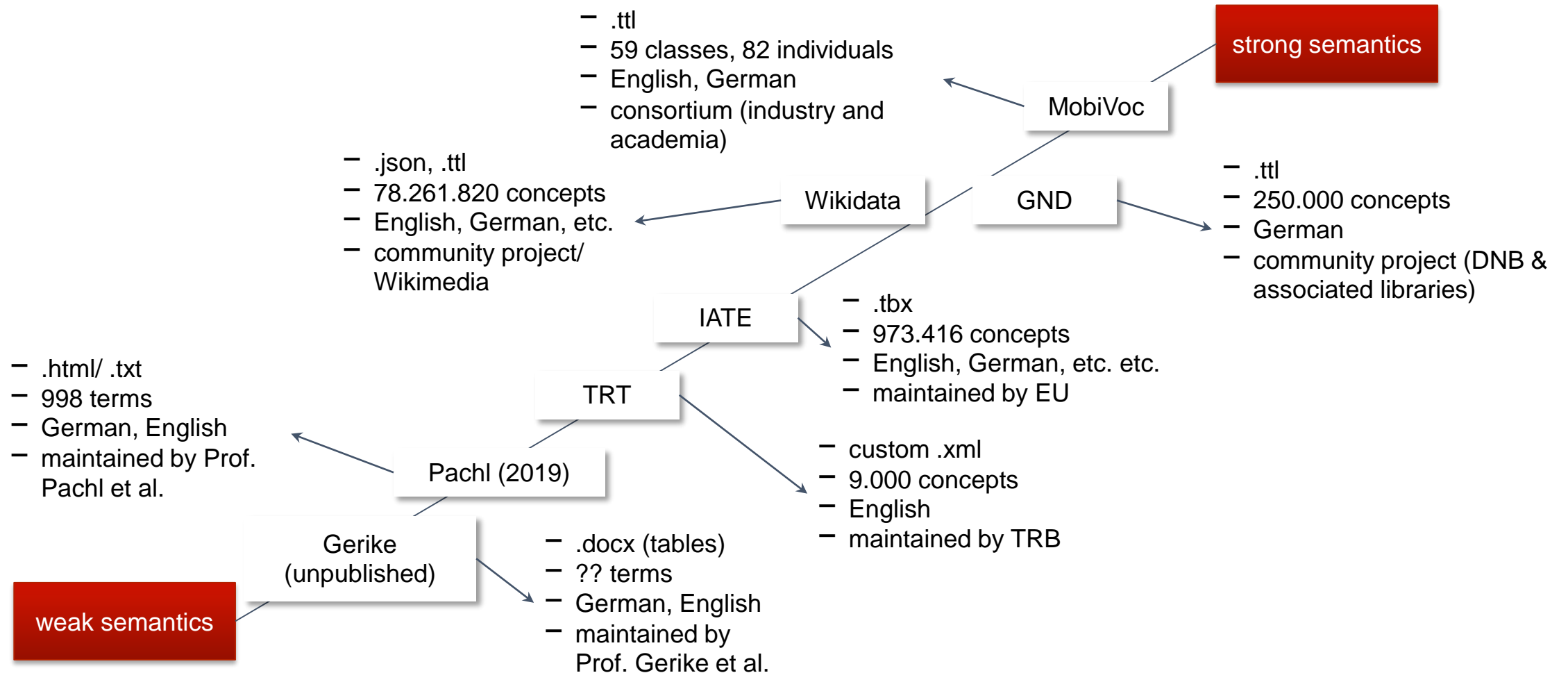
Linked vocabularies for FID move

Structure



Terminology re-use

Sources and their readiness for re-use



Skosification ... of a thesaurus

Skosification ... of the Transportation Research Thesaurus



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Transportation Research Thesaurus

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E-Mail: tris-trib@nas.edu

Term Details

TRT Keywords: Search

Display Hierarchical | Alphabetical | KWOC | KWIC

Top Terms > Transportation > Transportation modes > Public transit

Public transit (Aet) ← **concept**

Definition
Transportation service to the public on a regular basis using vehicles which transport more than one person for compensation, usually but not exclusively, over a set route or routes from one fixed point to another. Routes and schedules of this service may be predetermined by the operator or may be determined through a cooperative arrangement. Sub-categories include paratransit and mass transit service that are available to the general public. (Source: AASHTO Glossary)

Use For
Local transit
Mass transit
Transit

Broader Term
Transportation modes (Ae)

Narrower Terms
Bus transit (Aetb)
Rail transit (Aetr)
Paratransit services (Aett)
Marine transit (Aetw)

Related Terms (Hierarchical)
Air transportation (Aea)
Ground transportation (Aeg)
Water transportation (Aes)
Nonmotorized transportation (Aex)

Related Terms (Associative)
Rural transit (Afma)
Urban transit (Afma)

Find related records

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statements about the concept

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<TermInfo>

<T>Public transit</T>

<NN>Aet</NN>

<DF>Transportation service to the public on a regular basis using vehicles which transport more than one person for compensation, usually but not exclusively, over a set route or routes from one fixed point to another. Routes and schedules of this service may be predetermined by the operator or may be determined through a cooperative arrangement. Sub-categories include paratransit and mass transit service that are available to the general public.</DF>

<SO>AASHTO Glossary</SO>

<DateAdded>01/01/1999</DateAdded>

<UF DateAdded="19990101">Transit</UF>

<UF DateAdded="19990101">Local transit</UF>

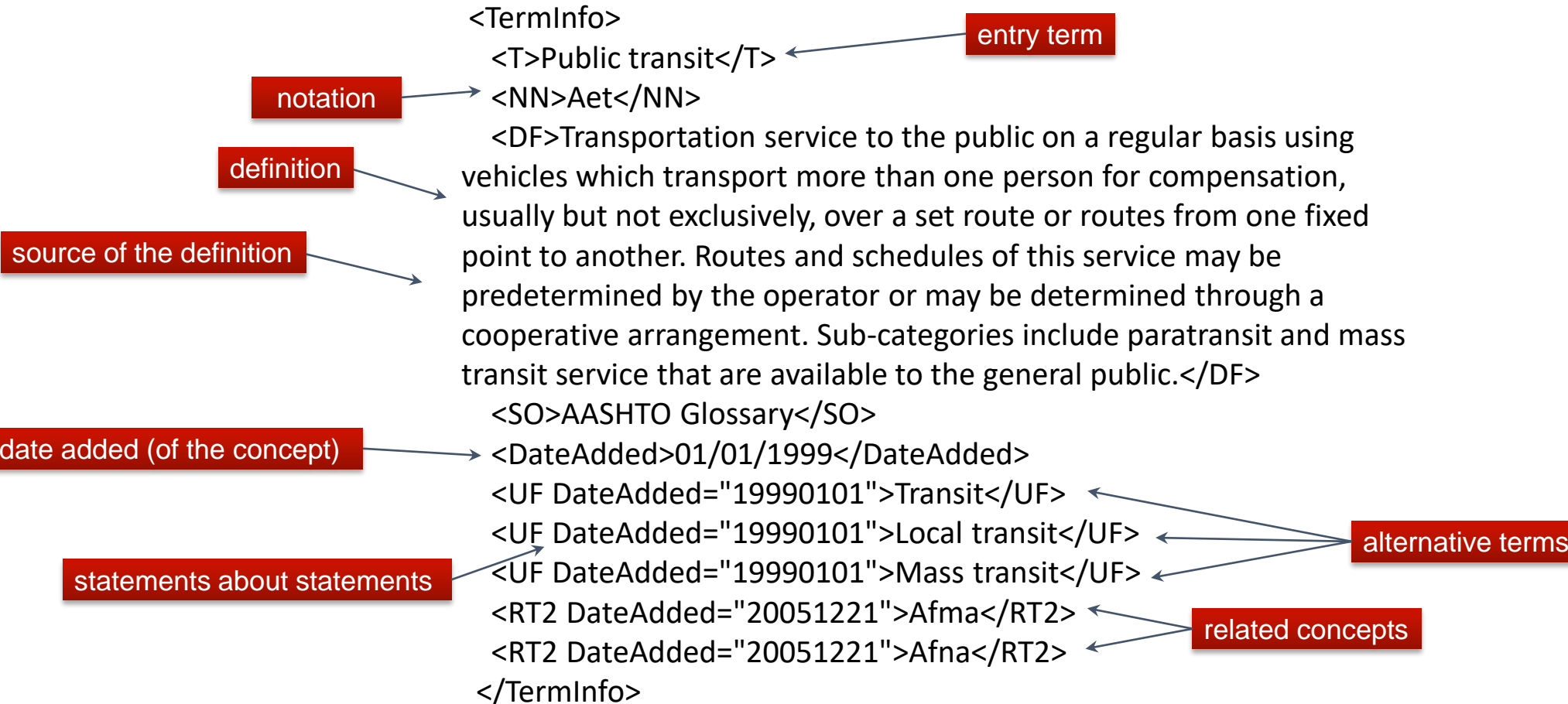
<UF DateAdded="19990101">Mass transit</UF>

<RT2 DateAdded="20051221">Afma</RT2>

<RT2 DateAdded="20051221">Afna</RT2>

</TermInfo>

Skosification ... of the Transportation Research Thesaurus



Skosification

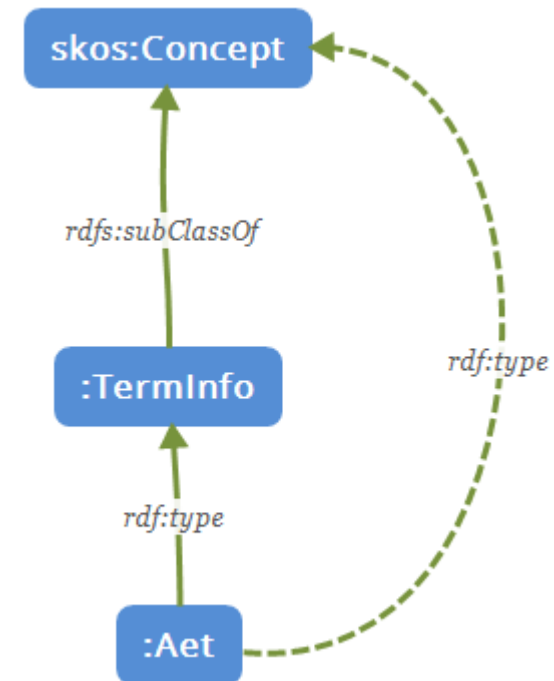
... of the Transportation Research Thesaurus



Use of SKOS and other known vocabularies

- <TermInfo> skos:Concept
- <DF> skos:definition
- <T> skos:prefLabel
- <UF> skos:altLabel
- <RT2> skos:related
- <NN> skos:notation
- <Date Added> dcterms:date
- <SN> skos:scopeNote

Class hierarchy and types:



Skosification

... of the Transportation Research Thesaurus



S P O .

```
:Aet a :TermInfo ;
  dcterms:date „01/01/1999“^^xsd:string ;
  skos:prefLabel „Public transit“@en-us ;
  skos:altLabel „Local transit“@en-us , „Mass transit“@en-us ,
    „Transit“@en-us ;
  skos:notation „Aet“^^xsd:string ;
  skos:definition „Transportation service ...“^^xsd:string ;
  ftrts:source „AASHTO Glossary“^^xsd:string ;
  skos:related :Afma , :Afna .
```

Skosification

... of the Transportation Research Thesaurus



```
:Aet dcterms:creator :TRB ;
```

```
skos:inScheme ftrt: ;
```

```
dcterms:description
```

```
„https://trt.trb.org/trt.asp?NN=Aet^^xsd:anyURI .
```

Skosification

... of the Transportation Research Thesaurus



```
CONSTRUCT {?narrower skos:broader ?broader}
```

```
WHERE
```

```
{?broader a :TermInfo; skos:notation ?shorternotation.
```

```
?narrower a :TermInfo; skos:notation ?longernotation.
```

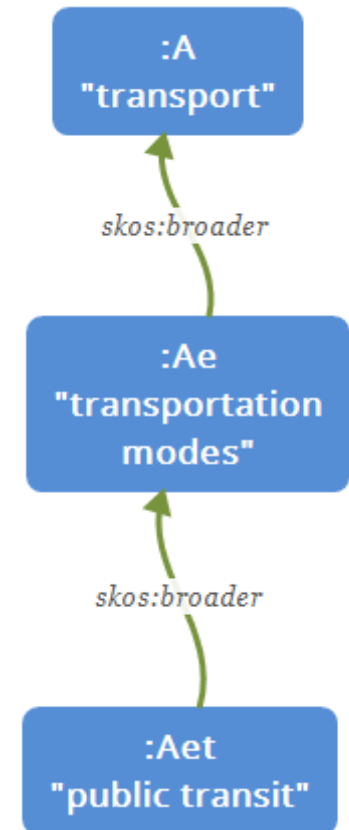
```
BIND (CONTAINS(?longernotation, CONCAT(?shorternotation))  
AS ?comp )
```

```
BIND (STRLEN(?longernotation) AS ?longernotationlen)
```

```
FILTER (?comp = true)
```

```
BIND (STRLEN(?shorternotation) AS ?shorternotationlen)
```

```
FILTER (?longernotationlen - ?shorternotationlen = 1)}
```




Skosification ... of a glossary

Skosification

... of the Glossary of Railway Operation and Control




ABSOLUTE SIGNAL

- 1) A signal that must not be passed in stop position without permission from the [operator](#).
- 2) An [interlocking signal](#) with a stop aspect that applies both to [train movements](#) and to [shunting movements](#). 

Source: http://www.joernpachl.de/glossary.htm#ABSOLUTE_SIGNAL

Absoluthaltsignal

- 1) Signal, dessen Haltbegriff für [Zug-](#) und [Rangierfahrten](#) gilt.
- 2) [Hauptsignal](#), an dem in Haltstellung nur mit Auftrag des [Fahrdienstleiters](#) vorbeigefahren werden darf. (siehe auch: [Permissivsignal](#)) 

Source: <http://www.joernpachl.de/glossar.htm#Absoluthaltsignal>

Skosification

... of the Glossary of Railway Operation and Control



pachl:Concept6

```
rdf:type skos:Concept ;  
rdfs:label  
    "Absoluthaltsignal"@de ,  
    "absolute signal"@en ;
```

skos:definition

```
"Signal, dessen  
Haltbegriff für Zug- und  
Rangierfahrten gilt."@de ,
```

```
"An interlocking signal  
with a stop aspect that  
applies both to train  
movements and to shunting  
movements."@en .
```

pachl:Concept7

```
rdf:type skos:Concept ;  
rdfs:label  
    "Absoluthaltsignal"@de ,  
    "absolute signal"@en ;
```

skos:definition

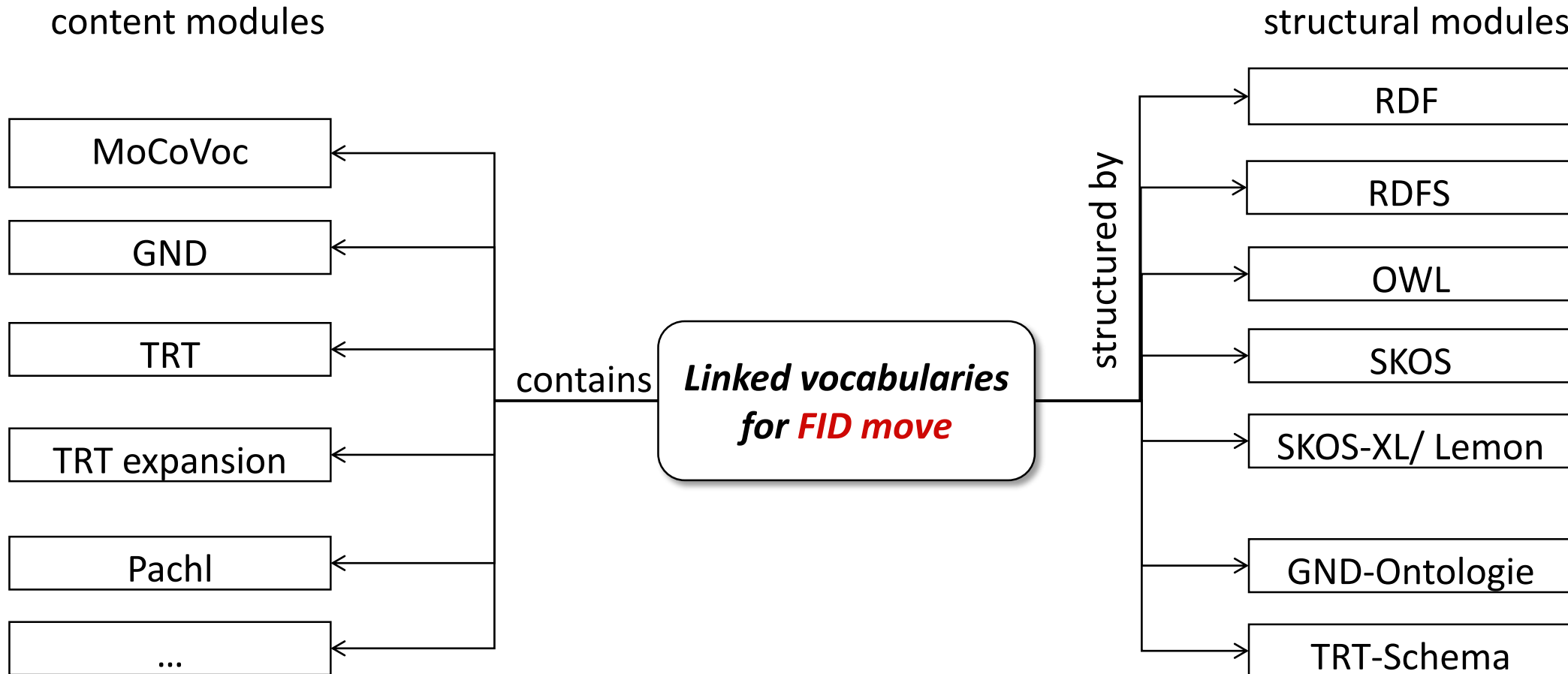
```
"Hauptsignal, an dem in  
Haltstellung nur mit  
Auftrag des Fahrdienstlei-  
ters vorbeigefahren  
werden darf."@de ,
```

```
"A signal that must not be  
passed in stop position without  
permission from  
the operator."@en .
```

S P O .

Linked vocabularies for FID move

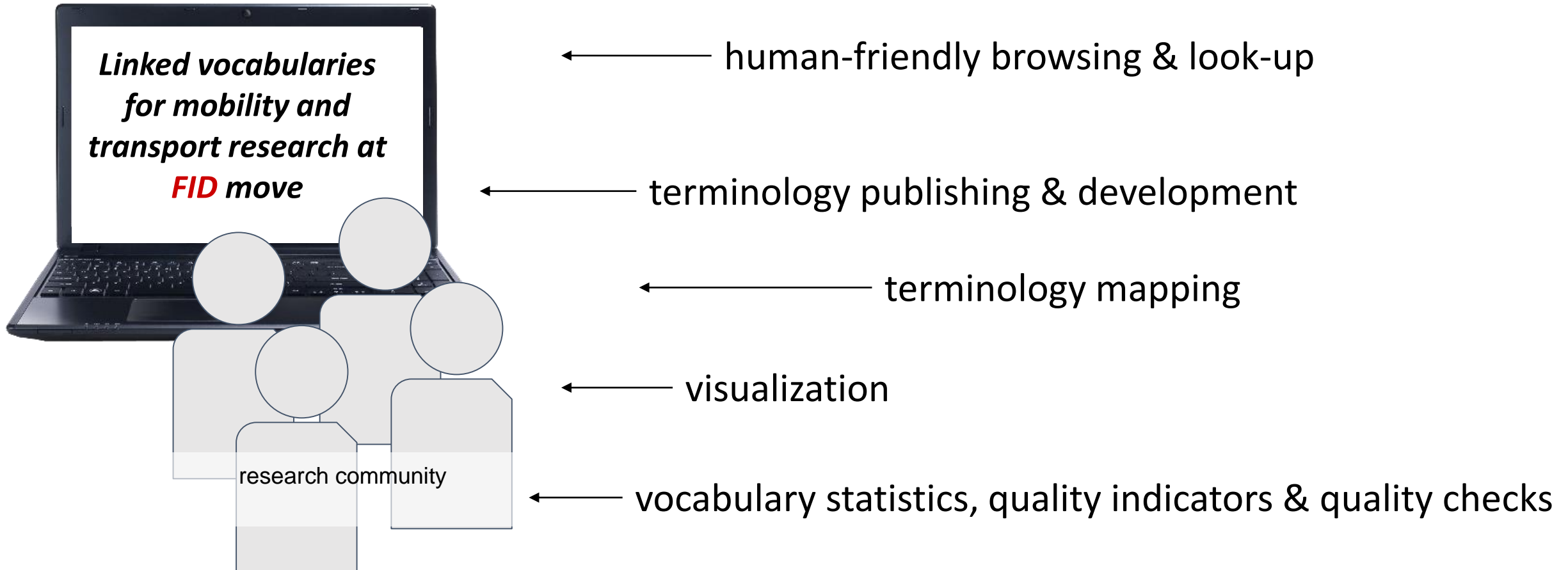
Contents & Structure



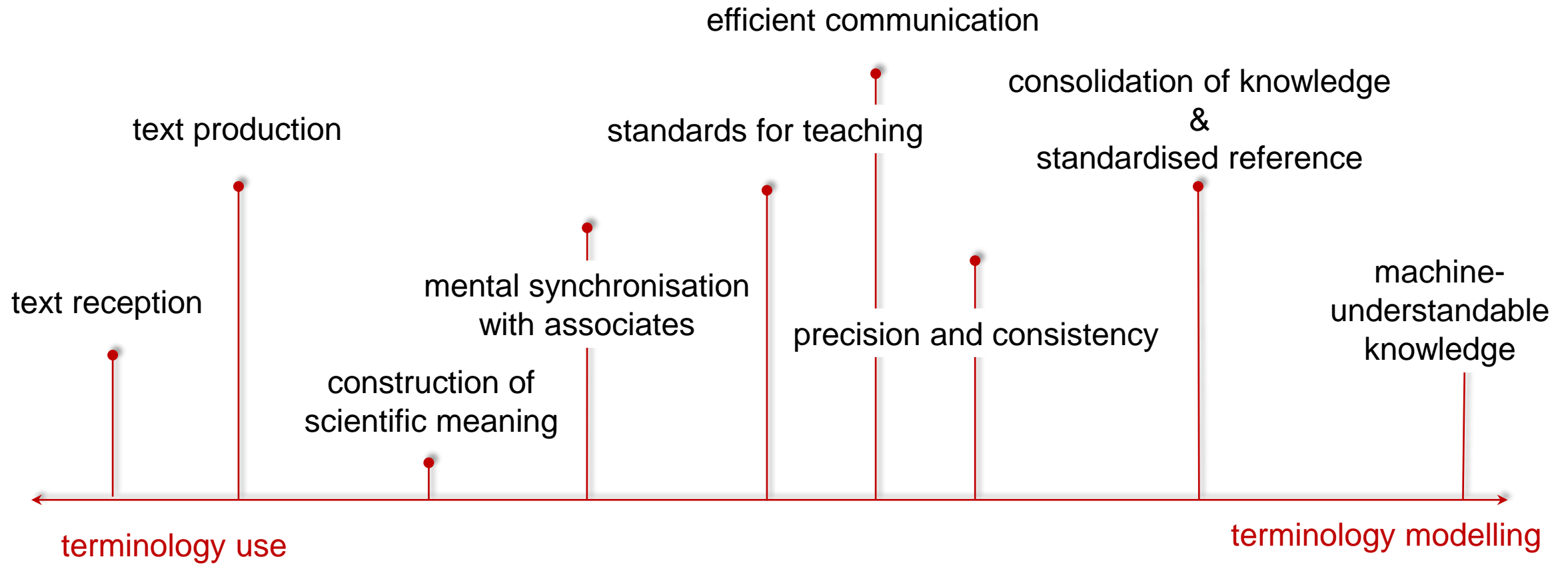
Outlook

Terminology Service

... for mobility and transport research



Terminology in the domain



Thank you!



MORE INFORMATION

www.fid-move.de

<https://twitter.com/FIDmove>

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